

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

What We Claim Is:

1-7. (cancelled)

8. (new) A method of up-shifting a twin-clutch transmission of a vehicle, comprising:
detecting an incorrectly pre-selected target gear;
calculating a maximum output torque (M_{Red}) for an engine in said vehicle, said M_{Red} associated with operation of said transmission in a correct target gear;
reducing a current output torque (M_{Motor}) for said engine to equal said M_{Red} ; and,
engaging said correct target gear.

9. (new) The method of Claim 8 further comprising:
setting a first setpoint torque (M_{Mot_soll}) for said engine equal to said M_{Red} .

10. (new) The method of Claim 8 wherein reducing a current output torque (M_{Motor}) further comprises decreasing a second setpoint torque M_{Mot_soll} .

11. (new) The method of Claim 10 wherein decreasing a second setpoint torque M_{Mot_soll} further comprises linearly decreasing said second setpoint torque M_{Mot_soll} .

12. (new) The method of Claim 8 further comprising:
determining whether said M_{Motor} is greater than said M_{Red} ; and,
performing at least two iterations of said steps of calculating said M_{Red} , determining whether said M_{Motor} is greater than said M_{Red} , and reducing M_{Motor} to equal said M_{Red} .

13. The method of Claim 8 wherein calculating said M_{Red} further comprises calculating said M_{Red} according to the following equation:

$$M_{Red} = firstM_{FW} \left(1 - \frac{i_{alt} - i_{neu}}{i_{alt}} \right), \text{ wherein said first } M_{FW} \text{ comprises a driver's desired torque, said}$$

i_{alt} comprises a ratio of the initial gear, and said i_{neu} comprises a ratio of the correct target gear.

14. (new) The method of Claim 8 further comprising:
checking whether said engine torque M_{Motor} is less than a second desired torque M_{FW} for said engine;
increasing said M_{Motor} to equal said second desired torque M_{FW} ;
calculating clutch torques for first and second clutches in said twin-clutch transmission, said first clutch for a currently engaged gear and said second clutch for said correct target gear;
and,
completing a cross-over shift.
15. (new) The method of Claim 14 further comprising:
setting a third setpoint torque M_{Mot_soll} equal to said second desired torque M_{FW} .
16. (new) The method of Claim 14 wherein increasing said M_{Motor} further comprises increasing a fourth setpoint torque M_{Mot_soll} .
17. (new) The method of Claim 16 wherein increasing a fourth M_{Mot_soll} further comprises linearly increasing said fourth M_{Mot_soll} .
18. (new) The method of Claim 14 further comprising :
determining whether said M_{Motor} is less than said second M_{FW} ; and,
performing at least two iterations of said steps of checking whether said M_{Motor} is less than said second M_{FW} ; increasing a fourth setpoint torque M_{Mot_soll} ; and, calculating said clutch torques for first and second clutches in said twin-clutch transmission.
19. (new) A method of up-shifting a twin-clutch transmission in a vehicle, comprising:
operating said transmission in a gear, wherein a torque M_{Motor} for said engine is associated with operation in said gear;
selecting a higher gear;
calculating a torque M_{Red} for said engine, said M_{Red} associated with operation of said transmission in said higher gear; and,
reducing said M_{Motor} to equal said M_{Red} , prior to engaging said higher gear.

20. (new) The method of Claim 19 wherein reducing said M_{Motor} to equal said M_{Red} , prior to engaging said higher gear further comprises decreasing a first setpoint torque M_{Mot_soll} for said engine.

21. (new) The method of Claim 19 further comprising:

initiating a cross-over to said higher gear;

checking whether said M_{Motor} is less than a torque M_{FW} for said engine, said M_{FW} associated with a throttle control input for said vehicle;

calculating clutch torques for first and second clutches in said twin-clutch transmission, said first clutch associated with said gear and said second clutch associated with said higher gear; and,

completing said cross-over shift to said higher gear.

22. (new) The method of Claim 21 further comprising increasing a setpoint torque M_{Mot_soll} for said engine to increase said M_{Motor} .